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%% Sentence level
s \rightarrow np(A), vp(decl,A). % the cat eats + ...
s --> [there], be(A), np(A). % there are cats, there is a cat
%% Preposition level
pp --> prep,np( ). % on the street
%% Noun phrase group?
% agreement with verb needed:
np(A) --> n(A). % tea, milk, dogs
np(A) --> a(pos),n(A). % brown dogs, old milk, hot tea
np(A) \longrightarrow det(A), n(A). % a dog, two dogs
np(A) --> det(A),a(pos),n(A). % a brown dog, two brown dogs
% no agreement with verb needed:
np --> n( ). % dogs, tea, milk
np --> a(pos),n(_). % brown dogs, old milk, hot tea
np --> det(A), n(A). % a dog, two dogs
np --> det(A),a(pos),n(A). % a brown dog, two brown dogs
%% Verb level
% Without object (zonder lijdend voorwerp)
vp(decl,A) --> iv(decl,A). % sleeps
vp(decl,A) --> iv(decl,A),pp. % sleeps on a couch
vp(decl,A) --> tv(decl,A). % drinks
vp(decl,A) --> tv(decl,A),pp. % drinks on a couch
vp(decl,A) --> dtv(decl,A). % writes
vp(decl,A) --> dtv(decl,A),pp. % writes on a couch
% With object (met lijdend voorwerp)
vp(decl,A) --> tv(decl,A),np. % drinks milk
vp(decl,A) --> tv(decl,A),np,pp. % drinks on a couch
vp(decl,A) --> dtv(decl,A),np. % writes a letter
vp(decl,A) --> dtv(decl,A),np,pp. % writes a letter on a couch
% With two objects (met meewerkend voorwerp en lijdend voorwerp)
vp(decl,A) --> dtv(decl,A),np,np. % writes the boy a card
vp(decl,A) --> dtv(decl,A),np,np,pp. % writes the boy a card on the couch
% Replace 'sleeps' by 'is sleeping'
iv(decl,A) --> be(A),iv(prep). % is sleeping (instead of sleeps)
tv(decl,A) --> be(A),tv(prep). % is drinking (instead of drinks)
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dtv(decl,A) --> be(A),dtv(prep). % is writing (instead of writes)
% Passive sentences
vp(decl,A) --> be(A),tv(pstp),[by],np. % is chased by a dog
vp(decl,A) --> be(A),tv(pstp),[by],np,pp. % is chased by a dog on the street
vp(decl,A) --> be(A),dtv(pstp),[by],np. % is written by a man
vp(decl,A) --> be(A),dtv(pstp),[by],np,pp. % is written by a man on the street
vp(decl,A) --> be(A),tv(pstp). % is chased
vp(decl,A) --> be(A),tv(pstp),pp. % is chased on the street
vp(decl,A) --> be(A),dtv(pstp). % is written
vp(decl,A) --> be(A),dtv(pstp),pp. % is written on the street
vp(decl,A) --> be(A),[being],tv(pstp),[by],np. % is being chased by a dog
vp(decl,A) --> be(A),[being],tv(pstp),[by],np,pp. % is being chased by a dog on the street
vp(decl,A) --> be(A),[being],dtv(pstp),[by],np. % is being written by a man
vp(decl,A) --> be(A),[being],dtv(pstp),[by],np,pp. % is being written by a man on the street
vp(decl,A) --> be(A),[being],tv(pstp). % is being chased
vp(decl,A) --> be(A),[being],tv(pstp),pp. % is being chased on the street
vp(decl,A) --> be(A),[being],dtv(pstp). % is being written
vp(decl,A) --> be(A),[being],dtv(pstp),pp. % is being written on the street
% Other cases
vp(decl,A) --> be(A),a(pos). % is red, are large
vp(decl,A) --> be(A),a(com),[than],np. % the cat is bigger than...
%% Lexical
% Verbs
% M: Mood (difference between walking, walk, walked)
% decl: declarative mood (Dutch: persoonsvorm): swims or swim
% base: (Dutch: stam): the infinitive???
% prep: present participle (writing)
% pstp: past participle (wrote) - nono, this is 'written', and I think there is no simple past in the corpus
%
% ---
% A: Agreement (walks vs walk)
% sg: 3rd person singular (walks)
% pl: plural, so not 3rd person singular (walk)
% We don't need first and second person (I, we, you), so this may be sufficient
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iv(prep) --> [writing].
iv(decl,sg) --> [writes].
iv(decl,pl) --> [write].
iv(pstp) --> [wrote]. %- should be 'written', right?
tv(prep) --> [riding].
tv(decl,sg) --> [rides].
tv(decl,pl) --> [ride].
tv(pstp) --> [rode]. %- 'ridden'
dtv(prep) --> [sending].
dtv(decl,sg) --> [sends].
dtv(decl,pl) --> [send].
dtv(pstp) --> [sent].
dtv(prep) --> [writing].
dtv(decl,sg) --> [writes].
dtv(decl,pl) --> [write].
dtv(pstp) --> [wrote]. %- 'written'?
% the verb 'to be'
be(sg) --> [is].
be(pl) --> [are].
% noun group?
det(_) --> [the]. % both singular and plural
det(sg) --> [a]. % only singular
n(sg) --> [bicycle].
n(pl) --> [bicycles].
n(sg) --> [man].
n(pl) --> [men].
n(sg) --> [dog].
n(pl) \longrightarrow [dogs].
% Other things
a(pos) --> [large].
a(pos) --> [green].
a(com) --> [larger].
a(com) --> [greener].
prep --> [with].
prep --> [on].
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prep --> [under].

% Useful commands:
% ['group_VG']. % load group_VG
% make. % something like: reload the file.
% s(X, []). % After using a; the next possible sentence is displayed.
% G = [___,__,__,],s(G,[]). % Gives a sentence of 6 elements: use; to display a next sentence.
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% $G = [the,man,_,_,a,_],s(G,[])$. % Gives a sentence of 6 elements, with fixed elements.